

United States  
Department of  
Agriculture

**Forest Service**

Southwestern  
Region

**Lincoln  
National  
Forest**

June 2002

# **Forest Plan**

## **Monitoring and Evaluation Report**

---

**Lincoln National Forest  
Fiscal Year 2001**

The U. S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, and marital and familial status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD). To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call 202-720-5964 (voice or TDD). USDA is an equal opportunity provider and employer.

## **Introduction**

The purpose of this report is to inform the Forest Leadership Team, other Federal, State, and local agencies, Indian tribes, and the public of the progress the Lincoln National Forest has made toward Forest Plan implementation and ecosystem management.

## **Setting the Context**

**Human Dimension** – In the Southwest, we are seeing a shift in trends that effect Forest Plan direction, goals, and objectives. For example, demographics are shifting to an older-aged population. This trend includes an overall transition from a public that desires emphasis on commodity-oriented (useful) products and services, to a public that wants programs and program delivery to be amenity-oriented (pleasant and attractive).

We are also seeing a continual increase in visitors of all ages. Results of this trend shift will include an increase in the kind and number of recreational opportunities available. Visitors are expecting better access to the Forest and we are continuously increasing accessibility to better meet the various needs of the public.

Forest Plan implementation has been flexible in meeting many of Southwestern society's changing trends. However, an increase in administrative appeals and litigation demonstrates that improvement in Plan direction can guide resolution of many changing needs.

Specific human dimension program areas needing future analysis and possible modification at Plan revision are:

- Transportation System and Roads Analysis
  - o What roads and trails will be available for public use or additional resource needs?
  - o What uses will be allowed and are we considering all uses to protect resources?
  - o What rights-of-ways are needed?
- Public Land Use, Land Exchanges, and Special Uses
- Allowable Sale Quantity of Wood Products
- Economic Availability of Small-diameter Wood Products
- Recreation Opportunities
  - o Are developed recreation sites adequate in kind and number?
  - o Are the variety and number of dispersed recreation opportunities adequate?

- o What are our existing and future maintenance obligations?
- Heritage Resource Management
  - o What National Register sites established since 1986 need to be incorporated?
  - o What standards and guidelines developed since 1986 need to be incorporated as appropriate?
- Elk and Livestock Forage Competition
- Water Yield, Water Quality, and Water Use
- Wildland-urban Interface Management

**Physical/Biological Dimensions** - The evolution toward an ecosystem management approach refocused the Lincoln's sensitivity to ecological issues at the landscape level. Coupled with human dimension trends, ecological issues brought needed Plan modifications to the forefront. Ecosystem management concepts upon which Plan Revision will be built include: 1) an increase in the number of listed threatened and endangered plants and animals, 2) an increase in knowledge of the function, processes, and interrelationship of ecosystems, and 3) a recognition that thresholds exist beyond which those ecosystems may no longer be sustainable.

Specific Plan modifications to be considered during Plan Revision are:

- Watershed
  - o Strengthening ecological objectives
  - o Clarifying existing and desired conditions of riparian habitats
  - o Clarifying achievable standards and guidelines
- Fire
  - o Incorporating natural fire into the appropriate ecosystems.
  - o Emphasizing wildland-urban interface.
- Range and Wildlife
  - o Reassessing wild ungulate and livestock management
- Invasive weeds
  - o Incorporating treatment accomplishments
- Forest health
  - o Identifying areas with more urgent resource needs
  - o Describing baseline forest health conditions
  - o Strengthening tools to address resource needs
- Threatened, Endangered and Sensitive plants and animals
  - o Evaluating trade-offs of single-species management in the context of a whole ecosystem

- o Continuing to keep plants and animals from becoming threatened or endangered

## **Monitoring Results**

### **Introduction**

This section is a continuation of the 2000 monitoring report, and includes past and present monitoring activities. The Lincoln National Forest monitoring and evaluation program has two components: informal and formal monitoring.

### **Informal Monitoring**

The Lincoln National Forest conducts informal monitoring during administrative and operational activity field visits. Baseline inventories, implementation, effectiveness, and validation are four broad categories or stages monitored. Monitoring activity results often change the way the Forest conducts business. Below are some examples of informal monitoring activities and some changes that occurred during fiscal year 2001.

Dispersed recreational-use patterns are changing. The Forest attributes the change to the Wildland Urban Interface (WUI) thinning that has opened the landscape. Areas are less dense and therefore, being used illegally by persons with motorized vehicles. In response, we adjusted the thinning practices to help address these changing recreational-use patterns.

We are taking a multi-use approach on monitoring projects and special-use permits. For example, on the Sacramento Ranger District, all District resource program areas provide input into the impact on other resources. They increase monitoring on projects identified as critical and needing protection and/or mitigation. Additional time is spent ensuring project implementation follows permit or contract specifications.

The Sacramento Ranger District adjusted their contract specification to expand the burn time and increase the burn rate of slash piles. Contractors are required to cover 2/3 of a slash pile with plastic then add the remaining slash (1/3) on top of plastic. This method has been successful and the other districts are experimenting with this procedure.

The Lincoln National Forest follows the State of New Mexico's smoke limits on the amount of smoke matter released into the air for all types of controlled burns. In partnership with the New Mexico State Environmental Improvement Division, we monitor the number of smoke complaints. Over the past two years, we have seen a reduction in complaints due to increasing public involvement and providing crews in or near subdivisions to answer questions from concerned citizens.

Several thousand acres of invasive plants are monitored annually. Treatments have reduced invasive plant population densities and public support of invasive plant treatments has been positive. Long-term treatments were adjusted for some species and monitoring was expanded to include sensitive species.

Monitoring of Forest Service boundaries continues to show an increase in encroachment onto National Forest land. Encroachments include fences in the wrong place and use of Forest Service land without a permit (structures, roads, trails and storage). Encroachments are normally identified when doing other types of work, and are reported by the public or by our fire patrols.

Forest employees conducted the majority of the informal monitoring summarized above. However, our publics informally and formally participate in monitoring. For example, during January 2001, State Senator Tim Jennings, GB Oliver, III (for State Senator Kidd), and Mike Nivison (for State Representative Gloria Vaugh) joined the Sacramento District Ranger Frank Martinez and some of his staff to discuss Forest Health issues in the Sacramento Mountains and to monitor some fuels reduction projects.

Informal monitoring is sometimes documented on Forest monitoring worksheets and can be found throughout various reports. Over the past few years, we are seeing a shift away from informal monitoring and toward formal monitoring affiliated with litigation and other issue resolution. Below is a summary of the worksheets over the past several years.

Number of Informal Monitoring Activities					
YEAR	BASELINE	IMPLEMENTATION	EFFECTIVENESS	VALIDATION	TOTAL
1993	14	45	33	0	92
1994	16	28	55	0	99
1995	27	58	34	5	124
1996	44	65	49	2	160
1997	30	85	19	5	139
1998	52	128	135	2	317
1999	3	145	36	3	187
2000	15	94	36	5	150
2001	2	137	0	0	139

### Formal Monitoring and Evaluation

We conduct formal monitoring in accordance to monitoring plans at the project or program levels, and during administrative and operational activity field visits. Some

examples of formal monitoring activities conducted during fiscal year 2001 are listed below.

### **Management Indicator Species**

As part of the planning process, Management Indicator Species (MIS) are selected to represent relative measures of change in quality and quantity of habitat components. These species and their critical habitat components may indicate the effects of management activities on a particular species or group of species. The Lincoln National Forest identified nine MIS representative of seven habitat types. These species and their habitat types are listed below followed by a short summary. For additional information or a copy of the 2001 MIS report, please contact the Forest.

<b>Management Indicator Species</b>	<b>Habitat Type</b>	<b>Indicator of key habitat factor.</b>
Rufous-Crowned Sparrow ( <i>Aimophila carpalis</i> )	Desert Shrub	Habitat quality on brushy mountain slopes
Meadowlark ( <i>Sturnella spp.</i> )	Grama Galleta Grassland	Habitat quality on open, weedy grasslands and low-elevation grasslands
Mule Deer ( <i>Odocoileus hemionus</i> )	Pinyon/Juniper Woodland	Habitat qualities on browse species (economic importance locally)
Plain (Juniper) Titmouse ( <i>Parus inornatus</i> )	Pinyon/Juniper Woodland	Trees with naturally occurring cavities in the pinyon/juniper woodland
Pygmy Nuthatch ( <i>Sitta pygmaea</i> )	Ponderosa Pine	Some habitat use is found within mixed conifer, and among snags and large trees used for foraging.
Elk ( <i>Cervus elaphus</i> )	Mixed Conifer	Habitat quality of mixed conifer and mountain meadows (economic importance locally)
Hairy Woodpecker ( <i>Dendrocopos villosus</i> )	Mixed Conifer	Habitat quality of aspen and aspen snags
Mexican Vole ( <i>Microtus mexicanus</i> )	Mixed Conifer	Habitat quality of mesic mountain meadows

Red Squirrel ( <i>Tamiasciurus hudsonicus</i> )	Engleman Spruce/Mixed Conifer	Habitat quality of mixed conifer with interlocking crowns and trees of cone bearing age
--	-------------------------------------	--

### **Rufous-Crowned Sparrow —**

Habitat status: The Rufous Crowned Sparrow is an indicator for desert shrub habitat. Forest Plan objectives for the Sparrow call for maintaining 720 acres of desert shrub habitat on each of the Guadalupe and Sacramento Ranger Districts. Their presence throughout the Forest is considered abundant and covers approximately 174,300 acres.

Population status: The Lincoln National Forest is required to maintain two viable populations (one minimum viable population for the Rufous-crowned Sparrow is defined as 1,440 birds)--one on each of the Guadalupe and Sacramento Ranger Districts. Bird monitoring was conducted on the Guadalupe Ranger District Queen and North Rim breeding bird survey routes. Survey results for the Queen area showed an overall downward trend from 1994 – 2001. The North Rim route survey results showed an upward trend between 1997 and 2001. The disparity between the two survey routes might be attributed to drought conditions and sporadic rainfall patterns. Surveys on the Sacramento and Smokey Bear Ranger Districts began in 2001. One year of data for these two districts is not conclusive to estimate a trend at this time.

Monitoring: The Forest expanded to a forest-wide Management Indicator Species and Neo-tropical birds monitoring program in 2001. Forest-wide data collected in 2002 should provide additional information for confirming trends on the Guadalupe Ranger District, and establishing trends on the Sacramento and Smokey Bear Ranger Districts.

### **Meadowlark**

Habitat status: The Meadowlark is an indicator for low-elevation grassland habitat. Forest Plan objectives call for maintaining 5,040 acres of habitat on the Guadalupe Ranger District. Habitat is present throughout the Forest, considered common, and covers approximately 73,314 acres.

Population status: The Forest Plan requires the maintenance of one minimal viable population across the Forest on the Guadalupe Ranger District. Bird monitoring results on the Guadalupe Ranger District Queen route from 1994 – 2001 shows the Meadowlark is rarely encountered in the area due to the lack of grasslands. Monitoring showed a fluctuating trend up to 1997, then a downward trend from 1998 to 2001.

Monitoring: The Forest expanded to a forest-wide Management Indicator Species and Neo-tropical birds monitoring program in 2001. Forest-wide data collected in 2002 should provide additional information for confirming trends on the Guadalupe Ranger District, and establishing trends on the Sacramento and Smokey Bear Ranger Districts.

### **Mule Deer—**

Habitat status: Mule Deer are an indicator for pinyon/juniper woodland habitat. Forest Plan management objectives require 38,400 acres of pinyon/juniper woodland habitat on each ranger district. Pinyon/juniper habitat is present throughout the Forest, considered abundant, and covers approximately 527,630 acres.

Population status: The Forest Plan requires maintaining three viable populations, one of each ranger district. The New Mexico Department of Game and Fish provided population figures. Three years of survey data exists for Game Management Units 34 and 37, two years for unit 30, and one year for unit 36. (Units 36 and 37 are located on the Smokey Bear Ranger District; Unit 34 on the Sacramento Range District, and Unit 30 on the Guadalupe Ranger District.) Although there is an overall downward Mule deer population trend, each ranger district continues to maintain more than the required viable number of deer defined by the Forest Plan Environmental Impact Statement. Based on the Department of Game and Fish survey data, the Smokey Bear Ranger District has a Mule deer population of approximately 2,933; the Sacramento Ranger District has approximately 2,349; and the Guadalupe Ranger District has approximately 5,000.

Monitoring: The Forest will continue to cooperate with the New Mexico Department of Game and Fish on aerial surveys by providing support as specified under our Master Memorandum of Understanding (dated April 25, 1991) between the Forest Service and New Mexico Department of Game and Fish.

### **Plain (Juniper) Titmouse—**

Habitat status: The Plain Titmouse is an indicator for pinyon/juniper woodland habitat. Forest Plan objectives for the Titmouse require maintaining 720 acres of pinyon/juniper habitat per ranger district. Pinyon/juniper habitat is present throughout the Forest, considered abundant, and covers approximately 527,630 acres.

Population status: The Forest Plan requirements for the Titmouse are to maintain one viable population on each ranger district. Monitoring on the Guadalupe Ranger District from 1994 – 2001 shows this species is common throughout the entire district. The Titmouse is found in shallow canyons with mixed vegetation. However, it probably reaches its greatest density throughout the Forest in stands of juniper and oak with scattered openings. Monitoring of the Guadalupe Queen route shows a downward trend from 1996 – 1999 and appears to be stable from 2000 – 2001. The North Rim route shows a fluctuating trend from 1996 - 1999 and then an upward trend from 1999-2001. Only one year of monitoring exists for both the Sacramento and Smokey Bear Ranger Districts and therefore is not conclusive to estimate trend at this time.

Monitoring: The Forest expanded to a forest-wide Management Indicator Species and Neo-tropical birds monitoring program in 2001. Forest-wide data collected in 2002 should provide additional information for confirming trends on



the Guadalupe Ranger District, and establishing trends on the Sacramento and Smokey Bear Ranger Districts.

### **Pygmy Nuthatch—**

Habitat status: The Pygmy Nuthatch is an indicator for ponderosa pine habitat. Forest Plan objectives for the Pygmy Nuthatch call for maintaining 720 acres on both the Sacramento and Smokey Bear Ranger District, covering an area of approximately 105,680 Forest-wide.

Population status: The Forest Plan requires maintenance of two viable populations, one on each of the Smokey Bear and Sacramento Ranger Districts. Surveys on the Sacramento and Smokey Bear Ranger Districts began in 2001. One year of data for these two districts is not conclusive to estimate trend at this time. Therefore, data from the North American Breeding Bird Survey and NatureServe will be used to estimate population trend and status for the Pygmy Nuthatch. The North American Breeding Bird Survey shows the bird as having an upward trend in population throughout New Mexico from 1966-2000 with a 3.4 percent increase in population trend estimated during the same time. The NatureServe ranks the Pygmy Nuthatch as “secure” in New Mexico. A secure ranking estimates a population of considerably more than 100 occurrences and more than 10,000 individuals.

Monitoring: The Forest expanded to a forest-wide Management Indicator Species and Neo-tropical birds monitoring program in 2001. Forest-wide data collected in 2002 should provide additional information for establishing trends on the Sacramento and Smokey Bear Ranger Districts.

### **Elk—**

Habitat status: Elk are an indicator for mixed conifer habitat. Forest Plan objectives for the elk call for maintaining 115,200 acres of elk habitat Forest-wide. The mixed conifer habitat is present on approximately 232,591 acres across the Forest. The Lincoln National Forest currently contains twice the amount of elk habitat required by the Forest Plan.

Population status: Forest Plan requirements for the elk are to maintain one population of 1,440 elk Forest-wide. Populations figures provided by the New Mexico Department of Game and Fish in 2001 and 2002 for game management Units 34, 36, and 37 indicate elk populations of approximately 4,000 individuals Forest-wide. Both the Smokey Bear and Sacramento Ranger Districts are maintaining viable populations. Current elk numbers of 4,000 exceed the Forest Plan Environmental Impact Statement requirements for maintaining 1,440 elk Forest-wide.

Monitoring: The Forest will continue to cooperate with the New Mexico Department of Game and Fish on aerial surveys by providing support as specified under our Master Memorandum of Understanding (dated April 25, 1991) between the Forest Service and New Mexico Department of Game and Fish.

### **Hairy Woodpecker—**

Habitat status: The Hairy Woodpecker is an indicator for mixed conifer ecosystems with an aspen and aspen snag component. Forest Plan objectives for the Hairy Woodpecker call for maintaining two populations of 1,440 acres on each of the Smokey Bear and Sacramento Ranger Districts. The Forest presently contains 233,477 acres of Hairy Woodpecker habitat.

Population status: Forest Plan requirements for the Hairy Woodpecker are to maintain two viable populations, one each on the Smokey Bear and Sacramento Ranger Districts. Surveys on the Sacramento and Smokey Bear Ranger Districts began in 2001. One year of data for these two districts is not conclusive to estimate trend at this time. Therefore, data from the North American Breeding Bird Survey and NatureServe will be used to estimate population trend and status for this species. The North American Breeding Bird Survey shows the bird as having an upward trend in population throughout New Mexico from 1966-2000 with a 2.2 percent increase in population trend estimated during this time. The NatureServe ranks the Hairy Woodpecker as “secure” in New Mexico. A secure ranking estimates a population of considerably more than 100 occurrences and more than 10,000 individuals.

Monitoring: The Forest expanded to a forest-wide Management Indicator Species and Neo-tropical birds monitoring program in 2001. Forest-wide data collected in 2002 should provide additional information for establishing trends on the Sacramento and Smokey Bear Ranger Districts.

### **Mexican Vole—**

Habitat status: The Mexican Vole is an indicator for mixed conifer habitat containing mesic mountain meadows. Mountain meadows for this analysis are defined as grasslands above 6,000 feet. Forest Plan objectives for the Mexican Vole call for maintaining 720 acres of Forest-wide mountain-meadow habitat. Mexican Vole habitat is present on approximately 7,511 acres forest-wide. The 7,511 acres of mountain meadow habitat are more than sufficient to meet Forest Plan requirements for 720 acres.

Population status: The Forest Plan requires maintenance of one population Forest-wide consisting of 1,440 individuals. The habitat needed to maintain a population of 1,440 individuals is 720 acres based on a density of one-acre per pair. Findings by Dr. Pat Ward, Rocky Mountain Research Station, from 1992 – 1996 show Vole populations in mountain meadows of the Sacramento Mountains ranging anywhere from 270 individuals per acre in 1992 to approximately 70 individuals per acre in 1994. Based on Dr. Ward’s finding, the density of Voles per acre within the Sacramento Mountains exceeds the number of Voles per acres required in the Forest Plan Environmental Impact Statement.

Monitoring: As part of the Rio Peñasco II Watershed Restoration Project, Mexican Vole and other Mexican spotted owl prey will be studied over a six-year period to detect trends in population and trends under three different timber harvest treatments. The six-year study will include three years of pre-treatment data collection and three years of post-treatment data collection. The study will

include 10 control sites (i.e. no treatment) and 10 treatment sites within the Rio Peñasco Watershed Area. The study will begin in 2002.

### **Red Squirrel—**

Habitat status: The Red Squirrel is an indicator for mixed conifer habitat. Forest Plan objectives for the Squirrel call for maintaining 3,600 acres of habitat Forest-wide. Red Squirrel habitat is present on approximately 232,591 acres Forest-wide.

Population status: Forest Plan requirements for the Red Squirrel are to maintain one population Forest-wide. A viable population is defined as 1,440 individuals. The mixed conifer habitat needed to maintain one viable population is 3,600 acres. Data regarding red squirrel populations on the Forest is limited. Mammal surveys within the 2000 Scott Able fire began in 2001 and will continue for an additional four years. At this time, existing data is not sufficient to determine trend. Therefore, NatureServe information regarding the Red Squirrel in New Mexico was used to establish population trends. NatureServe considers the Red Squirrel “secure” in New Mexico. A secure population is estimated to be considerably more than 100 occurrences and more than 10,000 individuals.

Monitoring: The Forest has very limited or no data available for Red Squirrel population trends and is proposing a three to five year study on the Smokey Bear and Sacramento Ranger Districts to provide data on population trends specific to the Forest.

### **Fire and Rehabilitation**

The Forest experienced two major wildfires in 2000, the Scott Able (Sacramento Ranger District) and Cree (Smokey Bear Ranger District) fires. And, during the 2001 fire season, we had the Homestead fire on the Smokey Bear Ranger district. Some of the monitoring in the burn areas included: assessing range readiness, and watershed and heritage site damage; inventorying rare species, invasive plants and aquatic habitat; stabilizing riparian, channel, and stream crossings; replacing wildlife water developments and fences; maintaining roads, and reforesting burned areas. Below are a few examples of rehabilitation work and monitoring results in the two burn areas.

Stabilizing soil is challenging on slopes within a burned area and especially in heavy-flow areas. In 2001, approximately 1000 acres of structures were rebuilt. Wire, trash rack, and dam structures were used during several attempts to stabilize the soil. The trash rack and dams structures were most effective in the heavy flow areas.

A viability post-fire utilization inventory was conducted within the burn areas. This inventory confirmed survival rate of tree species by diameter and exposed fire intensity. The bark sloughed off the Southwestern white pine trees exposed to greater fire intensities. These trees had no cover for borers and showed fewer signs of borer infestations.

Butterflies, Sacramento Mountain salamander, bats, aquatic wildlife, and small mammals were monitored on approximately 15,000 acres. Fiscal year 2001 is the first year of a 5-year monitoring plan for the Scott Able burn area. Findings include:

- A total of 63 butterfly species were observed and confirmed. Although host plants for the Sacramento Mountains Checkerspot butterfly were found in the burn area, the butterflies were not found.
- Fifty-three salamanders were located within the burn site. The majority of them were found in low-intensity-burn areas. Ninety percent of the salamander were still present one year after the Scott Able burn.
- The results of an acoustical bat survey showed bat detection almost twice as high in unburned areas.
- Sites in close proximity to severely burned areas were devoid of aquatic life.
- Data did not reveal a sizeable difference in the total abundance of small mammals between burned and unburned trap areas.

### **Wildland Urban Interface (WUI)**

Monitoring efforts within the WUI areas will continue over a 5-year period covering approximately 6,500 acres. Activities in fiscal year 2001 included:

- Participating in the first annual Fire Wise Workshop to help educate the public on creating defensible space around their property and increase their understanding of how fire plays a role in the ecosystem.
- Coordinating efforts through the Wyden Amendment to provide funding of forest health projects administered on non-federal lands.
- Working in partnership with the Natural Resource Conservation Service (NRCS), private landowners and managers in Otero and Lincoln Counties to assess the state of their land and protect its values from wildfire.
- Reviewing thinning of private lands adjacent to Forest lands to help insure thinning and treatments appear seamless across Forest Service and private land boundaries.
- Conducting Mexican spotted owl inventories within the WUI areas around Ruidoso, NM. The owls were found close to urban areas and in small pockets of mixed conifer (50-acre blocks) surrounded by other species.

### **Watershed Health and Restoration**

The Forest conducted many and varied activities that directly or indirectly improve water quality. For example, on the Smokey Bear Ranger District, approximately 1,873 acres of fuelwood were harvested from dense pinyon/juniper stands to improve ground cover. Mechanical vegetation management was accomplished on 732 acres to enhance or maintain vegetative ground cover, and a total of 900 acres of watershed and rangeland improvements were accomplished.

Annual site inspections, permanent photo points, and fixed ground cover plots were used to monitor watershed improvement projects. During 2001, 37 gully controls structures and over 10,000 acres of treated watershed were monitored using these techniques.

We conducted 14.1 miles of Proper Functioning Condition (PFC) surveys of perennial streams within the Sacramento Ranger District. Environmental analyses included soil condition assessments and PFC determination on the Bear Creek and Sacramento Allotments.

To improve watershed soil condition and ground cover within the Guadalupe Ranger District, over 12,300 acres were treated with prescribed fire.

Within the Rio Peñasco Large Scale Watershed Area, approximately 47,800 acres of existing vegetation surveys were conducted to obtain baseline information within the La Luz watershed. Inventory and monitoring results were utilized by wildlife, timber and fire.

### **Other**

Field surveys conducted between April and June determined presence of Mexican spotted owls beneath low-level military flyways.

To meet Mexican spotted owl-monitoring requirements, microhabitat plots are monitored to determine effects of each phase of treatment within habitat areas. During fiscal year 2001, the Sacramento Ranger District established 53 additional owl microhabitat plots. Eighty-eight new and previously established plots were monitored, and approximately 1,055 acres of restricted habitat and 296 acre of protected habitat were treated in 2001. We found no indication of MSO reproduction Forest-wide in FY2001.

In response to the requirements of the Wild and Scenic Rivers Act, the Lincoln completed an inventory and eligibility assessment for potential river segments/areas. The proposed Plan amendment went to the public in June 2002 for public comment.

Monitoring threatened, endangered and sensitive plant species during drought conditions has resulted in increased concern about areas eaten by wildlife or livestock. For example, approximately 7,000 acres of the Guadalupe Ranger District were monitored for Kuenzler cactus. Kuenzler cacti have been primarily found on ridge tops growing in rock sub-straight. We are now finding these cacti on the south, west, and east ridges. All species of cactus were in good condition. However, several had been eaten or uprooted and we are not certain about the cause. We think it is attributed to the current continued drought conditions. It appears animals are using cacti for water sources or are uprooting them looking for food.

Of the 108 listed significant caves on the Guadalupe Ranger District, eight were monitored during FY2001. The National Speleological Society (NSS) provided approximately \$55,000 in volunteer services, accomplishing monitoring, cleanup, repair, trail delineation, and public education.

Biologic prospecting of cave resources for research is a growing concern. Federal agencies are currently awaiting direction on how to administer biologic prospecting. This process will require changes in monitoring of the cave resources.

## **Evaluation**

### **What was Learned**

Within the Perk Grindstone Wildland Urban Interface areas, Phase 1 thinning projects included cutting trees up to 9" in diameter. We found that thinning to 9" diameter was not sufficient. When moving to Phase II of the thinning project, thinning contracts were adjusted to include trees up to 12" in diameter. Thinning trees up to 12" better meets project objectives, and no conflicts have been identified nor have there been changes to the thinning density.

Through effectiveness monitoring, we have found that fencing within recreational areas such as the Sitting Bull Falls Recreation Area is allowing vegetation to return to its natural state. Although there continues to be some violations, vegetation re-growth is apparent and the fencing is effective.

Collaborative work among the Cloudcroft Village Council, Cloudcroft Mayor and Forest Service on the Townsite project continued into fiscal year 2001. We learned that trusting the preplanning process and allowing the collection agreements to be open-ended on controversial projects allowed better success.

We are finding shifts in avian species populations on the Guadalupe Ranger District. While many originally surveyed areas continue to be monitored, we have added other areas and methods as we continue to gather significant "baseline" data. According to historical records, from about 1880 through 1990, the identified bird species required openness to survive. Although the openness still exists in some areas, most of the birds are absent or extremely rare. One possible answer is the increased pinyon/juniper trees and their expanding canopy density. We also found migration activities for the Southwestern willow flycatcher but saw no indications of nesting activities.

Aspen stands continue to decline on the Sacramento Ranger District primarily because the increased elk populations. However, within the fenced aspen stands, photo plots are showing a significant increase in aspen density.

As a result of the 2000 monitoring of the Rio Grande cutthroat trout, woody debris was placed in approximately eight miles of streams. This adaptive management practice will help to reintroduce the species into Forest streams. Additional trout monitoring and adaptive management will be conducted in 2002.

### **Scientific and Technical Assistance**

The known range of the Sacramento Mountain checkerspot butterfly was expanded as the result of 1998-2001 surveys conducted on the Lincoln National Forest. The Mescalero Reservation boundary remains the northern limit of the survey area. To the south and west, the survey areas have been extended along Sunspot Highway 6563

and throughout Russia Canyon. Dollins Canyon is now the furthest site surveyed to the south and east. This known-range area is located between Hwy 82 and Hwy 130 adjoining the Harvey Ranch (private land), and directly 11 miles from the Cloudcroft Village limit. In 2001, ten plots were monitored for adult and larval presence, use, and density. In addition, larval surveys were conducted in six project areas. Two post-diapause larvae and 419 adults found. Adults were observed between 8,160 feet 8,740 feet in elevation.

In addition to the above Checkerspot butterfly survey work, there were two additional butterfly surveys: 1) The Highway 130 Mitigation Study contracted by the State of New Mexico and completed in 2001. 2) The Forest Service contracted a second study with the same consultants, Blue Earth Ecological Consultants, Inc., that is expected to be completed December 2002.

### **Effective Public Service**

We began establishing formal boundaries around many of our developed recreation sites and increased the accessibility to parking, campsites, and Forest trails. To address the needs of physically challenged users, we installed elevated grills, adjusted table heights, and added hard, ground surface areas. The Forest received positive feedback from our public in response to these changes.

Recreation signing and physical barriers were adjusted to allow for more appropriate and intended use of Forest trails while stopping unauthorized use. The Forest posted prohibitions at several trailheads, and the public is being provided better and improved trail maps and materials. Many Forest replacement signs are in both English and Spanish.

In partnership with the South Central Mountain Resource Conservation & Development Council a pedestrian bridge project was completed. The Forest Service provided project oversight and the Council handled the design, coordination and work. This was an excellent example of how a partnership can provide more flexibility.

Recreation area hosts prove to be effective, especially in remote areas such as the Sitting Bull Falls Area and Three Rivers Campground. Vandalism is practically non-existent when the host is present. On both the Smokey Bear and Guadalupe Ranger Districts, some developed sites were converted to "Fee Demo". Fee Demo is a program permitting the Forest Service to charge a small fee for the use of the facility. We are effectively using money to respond to public needs because all money collected goes into improvements and maintenance of the site. Annual monitoring shows we are spending less than the allowed 15% to maintain the sites.

The New Mexico Rails-to-Trails Association has been active in the Cloudcroft area for seven years. In addition to monitoring trail conditions, they continue to help maintain, clean, patrol, and build structures to address damage by hikers.

## **Key Findings and Forest Supervisor's Certification**

The Lincoln National Forest continues to adapt management practices based on what we have learned through monitoring and evaluation of Forest resources.

During fiscal year 2001, a two-state, three National Forest, 17-county partnership forged to deal with issues related to forest restoration and create a safer wildland-urban interface. Management Indicator Species were re-evaluated, contract specifications were adapted to better meet objectives, and specific human and physical/biological dimension program areas were identified as needing additional analysis and possible modification during the Plan revision period.

Since implementation of the Lincoln's Land and Resource Management Plan in 1986, four corrections and nine amendments were completed. Corrections and amendments include the Southwestern Region "Final Environmental Impact Statement, For Amendment of Forest Plans", to incorporate Mexican spotted owl and Northern goshawk management direction.

In addition, the Plan guided successful implementation of many wildland-urban interface-thinning projects during fiscal year 2001, especially in Otero County and areas requested by the Village of Cloudcroft.

Due to new Congressional direction, the Lincoln National Forest Land and Resource Management Plan revision processes are scheduled to begin in 2007.

The Lincoln National Forest Plan as amended is sufficient to guide management of the Lincoln National Forest over the next year. As identified in this document, changes are necessary to maintain the viability of the Plan.

/s/ Jose M. Martinez  
JOSE M. MARTINEZ  
Forest Supervisor

7/29/02  
Date